

Assessment of anhedonia in psychological trauma: development of the Hedonic Deficit and Interference Scale

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Symptoms of anhedonia, or deficits in the ability to experience positive affect, are increasingly recognized as an outcome of traumatic stress. Herein we demonstrate a phenomenon of “negative affective interference”, specifically, negative affective responses to positive events, in association with childhood trauma history. Young adults ($n = 99$) completed a Hedonic Deficit & Interference Scale (HDIS), a self-report measure developed for this study, as well as a modified version of the Fawcett-Clarke Pleasure Capacity Scale that assessed not only positive but also negative affective responses to positive events. The two assessment approaches demonstrated convergent validity and predicted concurrent individual differences in trait positive and negative affect, and extraversion and neuroticism. Histories of childhood emotional and sexual abuse were differentially associated with negative affective responses to positive events. Future research and clinical directions are discussed.

Keywords: *anhedonia; deficit; negative affective interference; PTSD; depression*

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Ribot's (1896) definition for anhedonia referred to the inability to experience positive affect in circumstances normally associated with it. For example, the beauty of the sun setting across a lake brings no sense of wonder; the sight of an infant smiling may bring no feelings of warmth or cheer. Instead, the anhedonic individual experiences life without colour; there seems no reason to celebrate among friends, no event sufficient to bring about joy, no sense of pride in a job well done. Such symptoms are increasingly recognized in trauma-related disorders including in individuals with posttraumatic stress disorder (PTSD; e.g., Kashdan, Elhai, & Frueh, 2006, 2007), in which the descriptions share a conceptual overlap with emotional numbing symptoms.

Anhedonia as a symptom is typically measured by self-report such as via the Fawcett-Clark Pleasure Capacity Scale (FCPCS; Fawcett, Clark, Scheftner, & Gibbons,

1983). The assessment method taken by most self-report measures of anhedonia is to ask about the degree to which respondents believe they would experience positive affect in response to situations in which this would normally be expected (e.g., “You sit watching a beautiful sunset in an isolated, untouched part of the world”, “When you leave the house wearing new and attractive clothes, several people give you compliments on how great you look”; FCPCS items #1 and #2, respectively). The assumption underlying this approach is that low positive affect in response to pleasant situations should indirectly indicate the presence of anhedonia, that is, the inability to experience positive affect in response to such events (reviewed by Leventhal & Rehm, 2005).

However, traumatized individuals may not only fail to experience pleasure in response to pleasant events, but they may also experience elevated negative emotions such as anxiety (Pole, 2007), anger (Orth & Wieland, 2006),

guilt and shame (Kim, Talbot, & Cicchetti, 2009; Leskela, Dieperink, & Thuras, 2002). In other words, individuals may not only exhibit deficient positive affective responses to positive events (e.g., responding with disinterest, dullness, blunting) but they may also experience interfering negative affect (e.g., anxiety, guilt, shame, disgust) in response to what most people will find pleasant experiences. A limitation of present measures of anhedonia is thus that they fail to assess interfering negative affective responses that may occur to positive stimuli. By limiting one's assessment of response to positive events to the degree of experienced pleasure, and thus not asking about possible negative affect, one cannot know whether anhedonic symptoms are associated only with low positive affect (e.g., disinterest, dullness, blunting) and low pleasantness (e.g., little happiness or pleasure), or are also accompanied by negative affective responses including distress and dysphoria.

In this study we therefore developed a Hedonic Deficit & Interference Scale (HDIS) as a brief method for directly assessing hedonic deficits as distinguished from negative affective interference. We investigate the incremental and convergent validity of the HDIS in comparison to the FCPCS in young adults as a function of self-reported histories of childhood emotional and sexual abuse, as well as to examine the place of these responses in relation to the broader affective constructs of trait positive and negative affect (International Positive and Negative Affective Schedule Short-form, I-PANAS-SF; Thompson, 2007), and the personality characteristics of extraversion and neuroticism (Eysenck Personality Questionnaire, Brief-Version; Sato, 2005). We also evaluate a second methodology for assessing negative affective interference, specifically, by modifying the FCPCS not only to ask about joyful responses to positive events, but also to ask about potential negative affective responses to the same events.

Method

Participants

A total of 99 undergraduate students (38 men and 61 women) participated in this study via a secure website open only to students of our institution. Participants were recruited via introductory psychology classes and were assigned course credit as compensation for participation.

Measures and procedure

All participants provided informed consent before participating. Participants completed the following questionnaire measures online via the use of their own personal computer.

Hedonic Deficit & Interference Scale (HDIS). The HDIS was designed and administered to directly assess negative affect interference (i.e., secondary negative

affective responses to positive stimuli and events) in addition to, and distinct from, hedonic deficits (i.e., difficulties in experiencing positive affect).

An initial list of items for the HDIS were generated based on the review of other instruments, most notably the Profile of Mood States Questionnaire (POMS), and synonyms of the POMS items as identified from a thesaurus. Consultations with PTSD patients enrolled in psychological interventions for PTSD, as well as treating clinicians, at a specialized traumatic stress treatment program local to the investigative team, were then conducted, to ascertain those items most “troublesome” and “difficult” for PTSD patients to experience. Items were successively revised based on repeated consultations with this group of individuals to ensure readability and specificity to the theoretical constructs of interest. In addition, the HDIS was piloted on undergraduate students where high internal consistency reliability was determined for each subscale (internal consistency reliability estimates in the present samples are presented in the results section). An 11-point numeric rating scale was used (0–10) with only three numbers labeled qualitatively: 0 referred to “Not at All or Never True”, 5 referred to “Moderately True or Moderately Frequent”, and 10 referred to “Completely true or very frequent/Always or Almost Always the Case”.

Since the theoretical dimensions of measurement interest were derived a priori, the questionnaire was administered as a set of subscales that followed a logical ordering rather than as a set of unique test items ordered randomly. The first items address the frequency with which an individual has experienced five examples of positive emotionality over the past month (Items 1–5), the mean response to which is averaged as the HDIS-Positive Emotionality (PE) subscale. Items then address anhedonia specifically, by asking the informant whether he or she “can’t (you are *not* able to) experience [inserting separately each of the same five distinct positive affects] even when you try, and even when good things in your life happen” (Items 6–10; HDIS-Hedonic Deficit [HD] subscale). This phrasing was meant to ensure that what is rated is the inability to experience positive affect, independently from both the frequency and intensity with which individuals commonly experience positive affect as already rated in items 1–5, and the frequency with which positive events had occurred for participants over the previous month. The final items address the extent to which 11 negative affective consequences tended to occur when positive events happened in one’s life (e.g., whether participants commonly felt numb, dissociative, anxious, shame or disgust, unworthy, etc, specifically in response to prototypically positive events). These items (averaged together) composed a Negative Affective Interference [NAI] subscale (Items 11–21). Please refer to the HDIS as included in full within the Appendix.

Modified Fawcett-Clark Pleasure Capacity Scale (FCPCS; Fawcett et al., 1983). The FCPCS in its original format is a 36-item questionnaire requiring respondents to imagine themselves in various normally pleasant or pleasurable situations (e.g., “You are listening to beautiful music in peaceful surroundings”, “You lie soaking in a warm bath”) and then to rate the degree of pleasure they experience as a result on a 5-point Likert scale ranging from “No pleasure at all” to “Extreme and lasting pleasure.” Lower pleasure ratings are taken as an indirect index of anhedonia, that is, the inability to experience pleasure in such settings. For this study, high scores reflected a lower experience of pleasure (i.e., greater anhedonia). Several psychometric studies support the use of the FCPCS (reviewed by Leventhal & Rehm, 2005; Leventhal, Chasson, Tapia, Miller, & Pettit, 2006).

The FCPCS (Fawcett et al., 1983) was modified for use in the present study (hereafter Modified-FCPCS) so as to additionally provide a measure of negative affective interference. Specifically, whereas the original FCPCS solely requires respondents to rate the degree to which they believe they would experience pleasure or joy in response to each test situation, for the present study the Modified-FCPCS also asked participants to rate the degree to which they believed the positive stimuli and events described within FCPCS items would evoke negative affect. Specifically, imagining how they would respond to each FCPCS item (e.g., “You lie soaking in a warm bath”), participants also indicated whether they would expect themselves to experience anxiety, anger, sadness, shame, disgust, and emotional numbness (i.e., each affective state being rated separately).

Childhood Trauma Questionnaire-Screen (CTQ-Screen; Thombs, Bernstein, Ziegelstein, Bennett, & Walker, 2007). The CTQ-Screen is a 2-item measure which briefly assesses history of childhood physical abuse (single item) and sexual abuse (single item) that Thombs et al. demonstrated had excellent sensitivity (85%) and specificity (88%) for the detection of such occurrences relative to semi-structured interview. The items are taken from the CTQ-Short Form (Bernstein et al., 2003). The childhood physical abuse (CPA) item is “When I was growing up, people in my family hit me so hard that it left me with bruises or marks” and the childhood sexual abuse (CSA) item is “When I was growing up, someone tried to touch me in a sexual way or tried to make me touch them”. To additionally screen for emotional abuse, we included a third item from the CTQ-Short Form we felt had the most obvious face validity for childhood emotional abuse (CEA): “When I was growing up, I believe that I was emotionally abused.” Nevertheless, we acknowledge limitations of this single-item approach to the assessment of emotional abuse, such as ambiguity relating to how different persons might interpret what behaviors should

constitute “emotional abuse”. Ratings were made on the 5-point scale used for the lengthier CTQ-SF (i.e., from “Never True” to “Very Often True”), although consistent with Thombs et al. items were scored as dichotomous variables, specifically, as absent (“Never true”) or present (either “Rarely”/“Sometimes”/“Often”/“Very Often”).

International-revised Positive and Negative Affect Schedule Short-Form (I-PANAS-SF). The I-PANAS-SF (Thompson, 2007) requests participants to report to what extent they generally feel five items descriptive of positive affect (specifically: alert, inspired, determined, attentive, active) and five items descriptive of negative affect (specifically: upset, hostile, ashamed, nervous, afraid) from “never” to “always” (5-point scale). Thompson (2007) reported excellent psychometric characteristics across participants recruited from numerous nations and cultures.

Eysenck Personality Questionnaire-Brief Version (EPQ-BV). The EPA-BV (Sato, 2005) is a 24-item measure of the personality traits extraversion (12-items, e.g., “Are you a talkative person?”, “Do you enjoy meeting new people?”) and neuroticism (12-items, e.g., “Are you an irritable person?”, “Are your feelings easily hurt?”). Sato demonstrated excellent psychometric properties for the EPQ-BV.

Results

Internal and convergent validity of the HDIS and Modified-FCPCS

The alpha coefficients obtained for the HDIS-Positive Emotionality, HDIS-Hedonic Deficit, and HDIS-Negative Affective Interference subscales were, respectively: .90, .95, and .96. The alpha coefficients obtained for the Modified-FCPCS ratings were as follows: Joy ($\alpha = .91$), Anxiety ($\alpha = .94$), Sadness ($\alpha = .93$), Anger ($\alpha = .93$), Shame ($\alpha = .96$), Disgust ($\alpha = .97$), and Emotional Numbness ($\alpha = .97$).

Correlations between the HDIS subscales were of a moderate or lesser degree, consistent with discriminant validity: HDIS-Positive Emotionality with HDIS-Hedonic Deficit, $r = -.42$, $p = 0.01$, HDIS-Positive Emotionality with HDIS-Negative Affective Interference, $r = -.33$, $p = 0.01$, HDIS-Hedonic Deficit with HDIS-Negative Affective Interference, $r = .62$, $p = 0.01$. Within the Modified-FCPCS, the original Joy-Pleasure ratings were negatively correlated with negative affect ratings as follows ($p's \leq 0.001$): Anxiety ($r = -0.29$), Sadness ($r = -0.38$), Anger ($r = -0.50$), Shame ($r = -0.49$), Disgust ($r = -0.52$), and Emotional Numbness ($r = -0.42$). Table 1 indicates the HDIS demonstrated the expected correlations with the Modified-FCPCS.

Table 1. Correlations between the HDIS and Modified-FCPCS

	Joy	Anxiety	Sad	Anger	Shame	Disgust	Emotional. Numbing
HDIS-PE	.35	-.10	-.22	-.16	-.25	-.18	-.21
HDIS-HD	-.40	.21	.33	.33	.39	.34	.35
HDIS-NAI	-.28	.41	.45	.43	.45	.41	.33

Note: Concerning Bonferroni correction for multiple comparisons, correlations involving each of the three HDIS predictor scales were treated as distinct families of tests. r 's > 0.16 have p 's < 0.05 , and r 's > 0.25 have p 's < 0.05 after Bonferroni correction ($p < [0.05/7]$).

Concurrent criterion-related validity of the HDIS and modified-FCPCS: associations with trait positive and negative affect, and extraversion and neuroticism

Table 2 indicates that the HDIS exhibited expected correlations with the I-PANAS-SF and EPQ-BV. PANAS-PA and EPQ-BV-Extraversion scores were positively correlated with HDIS-Positive Emotionality scores, and negatively correlated with HDIS-Hedonic Deficit scores, although null associations were observed with HDIS-Negative Affective Interference scores. In comparison, I-PANAS-NA and EPQ-BV-Neuroticism scores negatively correlated with HDIS-Positive Emotionality scores, and positively correlated with both HDIS-Hedonic Deficit and HDIS-Negative Affective Interference scores. The Modified-FCPCS evidenced fewer associations. Modified-FCPCS-Joy/Pleasure scores were positively correlated with EPQ-BV-Extraversion, Modified-FCPCS-Anxiety and -Sad scores were correlated with both I-PANAS-NA and EPQ-BV-Neuroticism, and I-PANAS-NA alone was correlated with Modified-FCPCS-Anger and -Shame scores.

Group differences in anhedonia and Negative Affective Interference between individuals who did versus did not report a history of Childhood abuse

Note that scores on the HDIS and Modified-FCPCS did not differ significantly between individuals reporting a history of childhood physical abuse ($n = 21$) and individuals not reporting such history; data on request

from the corresponding author. The correlation between responses to the CTQ-Screening items for childhood emotional abuse (CEA) and childhood sexual abuse (CSA) was $r = .50$, $p < 0.001$. Table 3 reports HDIS and Modified-FCPCS scores compared between participants reporting a history of CEA ($n = 20$) versus no-CEA ($n = 79$), and compared between participants reporting a history of CSA ($n = 14$) versus no-CSA ($n = 85$). Statistics reported within Table 3 indicate that participants reporting histories of CEA evidenced significantly lower HDIS-Positive Emotionality and significantly higher HDIS-Hedonic Deficit and HDIS-Negative Affective Interference scores, as well as greater anxiety in response to pleasant events on the Modified-FCPCS. A multiple regression analysis predicting CEA-status by HDIS-Hedonic Deficit scores accounted for 5% of the variance in group membership, $R^2 = 0.05$, $F(1,96) = 4.69$, $p = 0.03$, and the addition of HDIS-Negative Affective Interference scores accounted for 14% of the variance, $\Delta R^2 = 0.09$, $F(1,95) = 10.21$, $p = 0.002$.

Participants with histories of CSA also evidenced significantly lower HDIS-Positive Emotionality and significantly higher HDIS-Hedonic Deficit and HDIS-Negative Affective Interference scores. These participants also reported experiencing less joy and more shame in response to pleasant events on the Modified-FCPCS, and were trending ($p < 0.10$) towards significantly more anxiety, disgust, and emotional numbness. A multiple regression analysis predicting CSA-status by

Table 2. Correlations between the HDIS and Modified-FCPCS and Positive and Negative Affect, and Extraversion and Neuroticism

	HDIS			Modified-FCPCS						
	PE	HD	NAI	Joy	Anxiety	Sad	Anger	Shame	Disgust	Emot. Numb
PANAS-PA	0.52	-0.29	-0.10	0.16	0.07	-0.13	-0.07	-0.12	-0.09	-0.09
PANAS-NA	-0.27	0.35	0.42	-0.08	0.34	0.23	0.20	0.20	0.15	0.11
EPQ-BV-Extraversion	0.30	-0.19	-0.08	0.31	0.02	0.03	-0.05	-0.07	-0.06	0.02
EPQ-BV-Neuroticism	-0.20	0.15	0.44	0.07	0.31	0.21	0.11	0.12	0.05	0.09

Note: Concerning Bonferroni correction for multiple comparisons, correlations involving each of the four predictor scales (PANAS-PA, PANAS-NA, EPQ-BV-Extraversion, and EPQ-BV-Neuroticism) were treated as different families of tests. r 's > 0.16 have uncorrected p 's < 0.05 , r 's > 0.26 have p 's < 0.05 after Bonferroni correction ($p < [0.05/10]$).

Table 3. Group differences in anhedonia and negative affective interference between emotional and sexual abuse victims versus non-victims

	CEA (<i>n</i> = 20) <i>M</i> (<i>SD</i>)	No-CEA (<i>n</i> = 79) <i>M</i> (<i>SD</i>)	<i>t</i> (97)	<i>d</i>	CSA (<i>n</i> = 14) <i>M</i> (<i>SD</i>)	No-CSA (<i>n</i> = 85) <i>M</i> (<i>SD</i>)	<i>t</i> (97)	<i>d</i>
HDIS-PE	4.46 (1.81)	5.88 (1.96)	2.94**	.74	4.10 (1.71)	5.84 (1.95)	3.17**	.91
HDIS-HD	3.10 (2.55)	1.97 (2.09)	2.06*	.52	3.38 (2.66)	2.00 (2.09)	2.19*	.63
HDIS-NAI	5.08 (2.26)	2.82 (2.30)	3.93**	.99	4.25 (2.31)	2.12 (2.46)	1.61*	.87
M-FCPCS-joy	3.96 (0.39)	4.05 (0.52)	0.68	–	3.77 (0.70)	4.07 (0.45)	2.13*	.61
M-FCPCS-anxiety	1.84 (0.59)	1.62 (0.45)	1.89*	.46	1.83 (0.59)	1.63 (0.47)	1.38	–
M-FCPCS-sadness	1.27 (0.24)	1.29 (0.38)	0.15	–	1.37 (0.40)	1.27 (0.36)	0.94	–
M-FCPCS-anger	1.15 (0.28)	1.16 (0.39)	0.66	–	1.27 (0.49)	1.14 (0.35)	1.23	–
M-FCPCS-shame	1.23 (0.22)	1.23 (0.38)	0.00	–	1.37 (0.46)	1.21 (0.33)	1.61*	.46
M-FCPCS-disgust	1.13 (0.23)	1.16 (0.38)	0.33	–	1.26 (0.47)	1.14 (0.33)	1.29	–
M-FCPCS-numbness	1.27 (0.31)	1.32 (0.53)	0.34	–	1.48 (0.56)	1.28 (0.47)	1.47	–

Note: Concerning Bonferroni correction for multiple comparisons, tests between emotional abuse victims versus non-victims, and tests between sexual abuse victims versus non-victims, were considered different families of tests. M-FCPCS, Modified-FCPCS; HDIS, Hedonic Deficit & Interference Scale; PE, Positive Emotionality Subscale; HD, Hedonic Deficit Subscale; NAI, Negative Affective Interference Subscale; * $p < 0.05$, ** $p < 0.05$ Bonferroni-corrected (i.e., $p < [0.05/10]$).

HDIS-Hedonic Deficit scores also accounted for 5% of the variance in group membership, $R^2 = 0.05$, $F(1,96) = 5.20$, $p = 0.03$, although the addition of HDIS-Negative Affective Interference scores as a predictor failed to significantly improve prediction, $\Delta R^2 < 0.01$, $F(1,95) < 1$, $p = 0.78$.

Discussion

This study provided support for the presence of anhedonic symptoms as a function of self-reported trauma history, specifically in individuals who reported a history of childhood emotional and sexual abuse. We demonstrated that not only decreased positive affect but also increased negative affect is frequently observed in individuals with trauma histories in response to what would normally be considered pleasant stimuli and events. It was found that the HDIS affords measurement of both an inability to experience positive affect (hedonic deficit) and negative affective interference in response to positive events. In addition, by modifying the FCPCS to ask about negative affective responses, an additional methodology for measuring these concepts was provided. We demonstrated the HDIS and Modified-FCPCS to have good internal validity, and scores between the two instruments converge. Each of the measures was also related to established measures of affective and personality functioning, specifically trait positive and negative affect, and the extraversion and neuroticism traits, further supporting construct validity. In all cases, however, more robust associations were observed with the HDIS as compared with the Modified-FCPCS.

The findings of this study demonstrate that, within the construct of negative affective interference, it may be

beneficial to consider individual facets of negative affect, for example, anxiety as differentiated from shame. Differences in self-reported trauma history may influence the specific negative emotions experienced in response to positive events. Whereas individuals who reported that they were emotionally abused during childhood may be primarily disposed to experience increased anxiety in response to positive events, individuals who have been sexually abused during childhood may be particularly disposed to experiencing shame.

It may be useful to supplement the use of traditional measures of anhedonia with measures of negative affective interference when assessing traumatized persons, such as including the HDIS or modified-FCPCS. Interventions for trauma victims are also recommended not only to focus on increasing positive affect, but also to include strategies for regulating negative affect in response to what might otherwise be wrongly assumed to be fully positive stimuli and events.

Limitations of the present study need to be taken into account, including the use of a small sample size of convenience, and use of a screening instrument to assess trauma exposure rather than interview. In particular, our use of only a single screening item as a measure of history of emotional abuse is problematic, especially given that the item was not behaviorally defined and therefore more open to heterogeneous interpretation in comparison with the validated screening items we used to assess history of physical and sexual abuse. It is clear that replication studies in samples that are more rigorously assessed with respect to trauma history and trauma-related symptoms are necessary. Future studies may choose to examine the use of the HDIS and Modified-FCPCS within clinical

populations (e.g., PTSD, depression, anxiety disorders, and psychotic disorders) as a function of trauma exposure, and the effectiveness of treatments in the reduction of hedonic deficits and negative affective interference. It has also been suggested that anhedonia can be social or non-social in nature; for example, the Chapman and Chapman Anhedonia Scales (Chapman, Chapman, & Raulin, 1976) distinguish between physical and sensory pleasures (e.g., relating to food, the natural environment [e.g., beauty of a sunset/flower], music, and physical exercise) from those of social interest (e.g., “Just being with friends can make me feel really good”). Relatedly, negative affective interference may differ across social versus non-social events (Frewen et al., 2010). We recommend future researchers compare response to positive events that are explicitly social (e.g., receiving a compliment) versus those that are not (e.g., taking a warm bubble bath alone) in traumatized persons.

Conflicts of interest and funding

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Appendix

Hedonic Deficit & Interference Scale (HDIS)

Please answer each question in terms of how true or frequent it has been of your experience over the past month. When answering each question, please give a number from 0 (zero) to 10 (ten), where “0” indicates the statement has been “Not At All or Never True”, “5” indicates the statement has been “Moderately True or Moderately Frequent”, and “10” indicates the statement has been “Completely True or Very Frequent” (Always or Almost Always the Case) of your experience over the past month. There are no right or wrong answers.

The first set of questions ask about how often you have experienced different positive emotions and positive feelings over the past month. *Over the past month*, would you say that you have experienced...

1. ... feelings of true happiness, cheerfulness, and joy? _____
2. ... feelings of physical or sensory enjoyment, like pleasure, euphoria, and ‘bliss’? _____
3. ... feelings of interest, enthusiasm, and excitement? _____
4. ... pleasant and serene feelings like relaxation and peacefulness? _____
5. ... feelings of inner contentment, self-esteem, and pride? _____

The next set of questions ask to what extent you think you CAN’T, that is, you are NOT able to experience positive feelings in general.

Would you say that you *can’t* (you are *not able to*) experience... even when you try, and even when good things in your life happen? (Remember: 0 indicates this is NOT TRUE, that you CAN experience positive feelings, and 10 indicates this IS TRUE, you CAN’T experience positive feelings)

6. feelings of true happiness, cheerfulness, and joy, ...? _____
7. feelings of physical or sensory enjoyment, like pleasure, euphoria, and ‘bliss’, ...? _____
8. feelings of interest, enthusiasm, and excitement, ...? _____

9. pleasant and serene feelings like relaxation and peacefulness, ...? _____

10. feelings of inner contentment, self-esteem and pride, ...? _____

For some people, negative feelings tend to get in the way of their experiencing positive feelings. For these people, when something positive happens in their life, they tend to experience negative feelings. The next set of questions ask about the extent to which you experience various negative feelings when positive events happen in your life. When positive events happen in your life: (examples of positive events include social praise, getting a reward or gift, or physical/sensory pleasures like taking a bath, walking on the beach)...

11. do you feel ‘numb’, like you *can’t feel* emotions and feelings? _____
12. do you feel ‘out-of-touch’ with your emotional response, as if you are detached, separated, or disconnected from your feelings? _____
13. do you experience anxiety (nervousness, agitation)? _____
14. do you experience fear or panic? _____
15. do you experience guilt (for example, *wondering if* you are worthy or deserving of)? _____
16. do you experience self-criticalness? (for example, *clearly feeling* unworthy, undeserving of)? _____
17. do you experience shame and humiliation? _____
18. do you experience disgust (strong aversion, ‘grossness’, like feeling ‘sick to your stomach’)? _____
19. do you feel emotional emptiness, or feel empty inside? _____

20. do you feel lifeless inside, as if there’s nothing positive there *to feel*? _____
21. do you purposely attempt to suppress positive emotions and feelings? (trying to ‘stop’, ‘push away’, ‘turn off’, ‘not feel’, ‘distance yourself from’ positive feelings, e.g., by distracting yourself, denying what is happening, or controlling your feelings)? _____